DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

Bay Area Branch
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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 1.28

WELDING INSPECTION REPORT

Resident Engineer: Casey, William
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-026579
Date Inspected: 24-Oct-2011

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: American Bridge/Fluor Enterprises, a JV

OSM Arrival Time: 600
OSM Departure Time: 1630
Location: Job Site

CWI Name:	See Below			**CWI Present:**	☑ Yes	☐ No	
Inspected CWI report:	☐ Yes	☑ No	☐ N/A	**Rod Oven in Use:**	☑ Yes	☐ No	☐ N/A
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No	☐ N/A
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☑ Yes	☐ No	☐ N/A
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Approved WPS:**	☑ Yes	☐ No	☐ N/A
				Delayed / Cancelled:	☐ Yes	☑ No	☐ N/A

Bridge No: 34-0006
Component: OBG and Tower

Summary of Items Observed:

At the start of the shift the Quality Assurance Inspector (QAI) traveled to the SAS project site and observed the work and the inspection performed by American Bridge/Fluor Enterprises (AB/F) personnel. The inspection was performed as noted below:

A). OBG W12/W13
OBG E12/E13
Lifting Lug Holes (LLH), QA Verification
FW Spencer (Piping Systems)
QAI: Doug Frey

1). The QAI, Doug Frey, was assigned to this designated work station to observe the Complete Joint Penetration (CJP) groove welding of the side plate field splice identified as 12W-13W-F. The welding was performed by Jorge Lopez ID-6149 utilizing the Flux Cored Arc Welding w/gas (FCAW-G) as per the Welding Procedure Specification (WPS) ABF-WPS-D15-3110-3 Rev. 0. The QC inspector JohnPagliero performed the inspection and verified the welding parameters utilizing the WPS as a reference. No issues were noted by the QC inspector. The welding was perfomed at this work station was not completed during this shift on this date.

2). Later in the shift, the QAI, observe the Complete Joint Penetration (CJP) groove welding of the side plate field splice identified as 12E-13E-F. The welding was performed by Fred Kaddu ID-2188 utilizing the Shielded Metal Arc Welding (SMAW) process as per the Welding Procedure Specification (WPS) ABF-WPS-D15-1110A Rev. 1. The QC inspector Jesse Cayabyab performed the inspection and verified the welding parameters utilizing the WPS as a reference. No issues were noted by the QC inspector. The welding was perfomed at this work

station was not completed during this shift on this date.

3). The QAI, Mr. Frey, also observed the fillet (seal) welding of the "A" deck, identified as 13E-14E-A, to the backing bar of the weld joint. The welding was performed by Wai Kitlai ID-2953, Xiao Jian Wan ID-9677 and Richard Garcia ID-5892 utilizing the Flux Cored Arc Welding w/gas (FCAW-G) process as per the Welding Procedure Specification (WPS) ABF-WPS-D15-F3200-2, Rev. 0. The QC inspector, John Pagliero, performed the inspection and verified the welding parameters utilizing the WPS as a reference. The welding of this weld joint was not completed during this shift. This joint is designated as a Seismic Performance Critical Member (SPCM). For additional information regarding this weld joint see Quality Assurance Lead Inspector Summary

4). The QAI, Doug Frey, also observed the continued welding and the QC inspection of the piping systems identified as the compressed air and domestic water. The CJP welding was performed by Curtis Jump utilizing the WPS identified as 1-12-1, Rev. 2 (1.12) which was also utilized by the QC inspector, Sal Merino, to monitor and verify the welding parameters.

B). Electrical Cable Tray Supports

Tower Service Platform at the 53 Meter El.
FW Spencer (Piping Systems)
QAI: Joselito Lizardo

1). The QAI, Joselito Lizardo, was assigned to this designated work station to observe the fillet welding and QC inspection of the cable tray supports located at the cross beam number 1. The welding was performed by Mike Jiminez ID-4671 utilizing the Shielded Metal Arc Welding (SMAW) process as per the WPS identified as ABF-WPS-D15-F1200, Rev. 2 which was used by the QC inspector, Patrick Swain, as a reference during the welding operation. The welding was not completed during this shift.

2). The QAI also observed the fillet welding of the new connection plates to the south tower skin plate identified as "D". The welding was performed by Todd Jackson ID-4639 utilizing the Shielded Metal Arc Welding (SMAW) process as per the WPS identified as ABF-WPS-D15-F1200, Rev. 2. The QC inspector, Fred Von Hoff, performed the inspection and verified the welding parameters utilizing the WPS as a reference. The welding of the connection plates were completed during this shift.

3). The QAI, Joselito Lizardo, also observed the continued welding and the QC inspection of the piping systems identified as the compressed air and domestic water. The CJP welding was performed by Curtis Jump utilizing the WPS identified as 1-12-1, Rev. 2 (1.12) which was also utilized by the QC inspector, Steve Jensen, to monitor and verify the welding parameters.

C). OBG 13E/14E
QAI: Craig Hager

This QA Lead Inspector assigned QAI Craig Hager to observe the seal welding of the bottom plate field splice identified as 13E-14E-D2. The welding was performed utilizing the Flux Cored Arc Welding w/gas (FCAW-G) as per the Welding Procedure Specification (WPS) ABF-WPS-D15-F3200-2, Rev. 0 which was utilized by the QC Inspector, Patrick Swain, as a reference to monitor the welding, verify the welding parameters and the preheat and interpass temperatures. The welding was performed by the welders Wai Kitlai ID-2953, Jin Pei Wang ID-7299 and Xiao Jian Wan ID-9677. The QC inspection tasks and the welding performed were randomly observed by the QAI and appeared to comply with contract documents.

Quality Assurance Lead Inspector (QALI) Summary

Later in the shift, this QA Lead Inspector (QALI) also observed the QAI's, Doug Frey and Craig Hager monitor the work performed by the QC inspectors at random intervals and also observed the QA Inspectors verify the welding parameters, the minimum preheat and the maximum interpass temperatures. The QAI's utilized a Fluke 337 clamp meter to measure the electrical welding parameters, Tempil Heat Indicators and/or a Fluke 63 IR Thermometer for verifying the preheat and interpass temperatures. At the conclusion of the shift this QA Lead Inspector discussed and reviewed the work performed by the QAI's in regards to the various observations and the verifications of the WPS's, consumables, welding parameters, preheat and interpass temperatures as described above. The QAI observations of the QC inspection and verification of the welding parameters performed on this date appeared to comply with the contract specifications with no issues noted.

At the start of the shift, this QA SPCM Lead Inspector verified the fit-up and planar alignment of the Orthotropic Box Girder (OBG) field splice identified as 13E-14E-A. This QAI utilized a Cambridge Gage to measure planar alignment and a pair of inside calipers, with a digital read out, to measure the root opening. At the conclusion of the QC/QA joint inspection of the planar alignment there appeared to be four (4) areas that did not comply with the contract specifications which were located at following Y axis; 1)Y=7450 mm, 150 mm long and 4.0 mm misalignment, 2)Y=8680 mm, 430 mm long and 3.0 mm misalignment, 3)Y=14400 mm, 300 mm long and 3.0 mm misalignment, and 4)Y=20050 mm, 160 mm long and 3.0 mm misalignment. The average root opening was measured as 23 mm wide and no gaps exceeding 2 mm were noted at the steel backing bar to the B-side of the "A" deck. The QC/QA inspection/verification was performed at the request of Bonifacio Daquinag, Jr. QC department generated the documentation, Planar Misalignment Map, with signatures of this QAI and QC Lead Inspector, Bonifacio Daquinag, Jr. which was submitted to the Department for review by AB/F Quality Control Manager (QCM) Charles Kanapicki. The time of the joint inspection was approximately 0715.

This report was generated upon the discussions with the QA Inspectors, random visual observations and review of the QAI field reports. For additional detailed information see each of the individual QAI submitted and approved Weld Inspection Reports (WIR).

Review of QA Tracking Plan

This QA Inspector continued the daily review of field inspection reports and update of the field document control tracking records regarding the Orthotropic Box Girders (OBG, Longitudinal and Transverse "A" Deck Stiffeners, Deck Access Holes and the Tower Shear plates. The QAI also updated the tracking records for the pipe welds and the pipe supports.

On this date the QAI commence the review of QA tracking documents for the OBG's identified as E3, E4 and E5.

Summary of Conversations:
There were general conversations with Quality Control Lead Inspector, Bonifacio Daquinag, Jr., at the start of the shift regarding the location of welding, inspection personnel scheduled for this shift.
Comments

WELDING INSPECTION REPORT

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This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Nina Choy 510-385-5910, who represents the Office of Structural Materials for your project.

Inspected By:	Reyes,Danny	Quality Assurance Inspector
Reviewed By:	Levell,Bill	QA Reviewer